

REMARKS

This amendment is filed to correct claims 4-6 from claiming a method to instead claiming an apparatus, and so to be apparatus claims corresponding to the method claims provided as claims 1-3.

Attached hereto is a marked-up version of the changes made to the application by this amendment. The attachment is captioned "Version with marking to show changes made."

CONCLUSION

It is believed that claims 1-6 are in condition for allowance and their passage to issue is earnestly solicited.

Aug. 20, 2002
Date

Respectfully submitted,

James A. Retter
James A. Retter
Registration No. 41,266

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
755 Main Street, P.O. Box 224
Monroe, CT 06468-0224

tel: (203) 261-1234
Cust. No.: 004955

Version With Marking To Show Changes Made

In the claims:

Claims 4-6 are amended as follows.

4. (Amended) ~~A method~~An apparatus for determining component flow rates of a multiphase fluid in a conduit, the fluid consisting of at least three known components, the ~~method~~apparatus ~~comprising the steps of:~~
- a) means for measuring at each of two different positions along the conduit at least four mixture quantities;
 - b) means for providing a speed of sound in each of the components at the measured pressures and temperatures;
 - c) means for providing a trial value for each of either the component flow rates or the phase fractions;
 - d) means for using a predetermined model to calculate values for the measured mixture quantities based on the trial values for each of either the component flow rates or the phase fractions;
 - e) means for using a predetermined error function to determine an error value; and
 - f) means for using a predetermined optimizing algorithm to determine whether the calculated values are acceptable, and, if they are not, to provide a new trial value for each of either the component flow rates or the phase fractions.
5. (Amended) ~~A method~~An apparatus as in claim ~~4~~4, wherein the error function is the sum of the squares of the difference between the measured and calculated values at each point.
6. (Amended) ~~A method~~An apparatus as in claim ~~4~~4, wherein the four mixture quantities are the sound speed, the flow velocity of the multiphase fluid, the pressure and the temperature.